

IN THE CLAIMS:

Claims 1-6, 8, 12 and 14-20 are pending in this application. Please amend claims 1-6, 8, 12, 15-17 and 19, as follows:

1. (Currently Amended) An automatic teller machine (ATM) electronically connected to one or more devices, the one or more devices comprising:
 - a deposit device configured to receive an initial bank note and a counterfeit bank note which is substantially physically the same bank note after having been identified as the initial bank note that has been identified as a counterfeit bank note at an external station, ~~the initial bank note being transferred to an image extraction device;~~
 - an image extraction device having a sensor configured to extract one or more initial images from the initial bank note using the sensor and extract one or more ~~initial~~ second images from the ~~initial~~ counterfeit banknote using the same sensor;
 - a transaction log device configured to attach a transaction log to the to the one or more initial images;
 - a comparison device configured to compare the one or more initial images of the initial bank note to the one or more second images of the counterfeit bank note in order to obtain a comparison result; and
 - a retrieval device for tracing the counterfeit bank note, which is configured to retrieve the transaction log attached to the initial bank note, if comparison device determines that the one or more initial images of the initial bank note and the one or more second images of the counterfeit bank note are within the range of similarity.
2. (Currently Amended) The automatic teller machine of Claim 1, the one or more devices further comprising at least one of:
 - a storage device configured to store the one or more initial images of the initial bank note, the one or more second images of the counterfeit bank note and the transaction log; and
 - a network link to an external storage device configured to store the one or more initial images of the initial bank note, the one or more second images of the counterfeit bank note and the transaction log.

3. (Currently Amended) The automatic teller machine of Claim 1, wherein the comparison device is further configured to determine if the one or more initial images of the initial bank note are within a range of similarity to the one or more second images of the counterfeit bank note.
4. (Currently Amended) An automatic teller machine (ATM) electronically connected to one or more devices, the one or more devices comprising:
- a deposit device configured to receive an initial bank note and a counterfeit bank note which is substantially physically the same bank note after having been identified as the initial bank note that has been identified as a counterfeit bank note at an external station, the initial bank note being transferred to an image extraction device;
 - an image extraction device having a sensor configured to extract one or more initial images from the initial bank note using the sensor and extract one or more initial second images from the initial counterfeit banknote using the same sensor;
 - a transaction log device configured to attach a transaction log to the to the one or more initial images;
 - a comparison device configured to compare the one or more initial images of the initial bank note to the one or more second images of the counterfeit bank note in order to obtain a comparison result; and
 - a retrieval device for tracing the counterfeit bank note, which is configured to retrieve the transaction log attached to the initial bank note, if comparison device determines that the one or more initial images of the initial bank note and the one or more second images of the counterfeit bank note are within the range of similarity, wherein the image extraction device is further configured to:
 - extract a front side initial image of the initial bank note in a first initial position;
 - extract a front side initial image of the initial bank note in a second initial position;
 - extract a back side initial image of the initial bank note in a first initial position; and
 - extract a back side initial image of the initial bank note in a second initial position.

5. (Currently Amended) The automatic teller machine of Claim [[1]] 4, wherein the image extraction device is further configured to:
- extract a front side second image of the counterfeit bank note in a first position;
 - extract a front side second image of the counterfeit bank note in a second position;
 - extract a back side second image of the counterfeit bank note in a first position; and
 - extract a back side second image of the counterfeit bank note in a second position.
6. (Currently Amended) The automatic teller machine of Claim [[4]] 5, wherein the comparison device is further configured to compare each second image of the counterfeit bank note in each position a plurality of times to a corresponding initial image of the initial bank note.
7. (Canceled).
8. (Currently Amended) The automatic teller machine of Claim 3, wherein the comparison device is further configured to analyze image characteristics using a Euclid distance formula, and further configured to determine whether the one or more initial images of the initial bank note and the one or more second images of the counterfeit bank note have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.
- 9-11. (Canceled).
12. (Currently Amended) A method of tracing bank notes, comprising the steps of:
- receiving a deposit of an initial bank note;
 - extracting one or more initial images from the initial bank note using a sensor;
 - attaching an initial transaction log to the one or more initial images;
 - receiving one or more second images of a counterfeit bank note using the same sensor, which is physically the same bank note after having been identified as counterfeit bank note;

comparing the one or more initial images of the initial bank note to the one or more second images of the counterfeit bank note in order to obtain a comparison result; and

retrieving the initial transaction log based on the comparison result, if the comparison result indicates that the one or more images of the initial bank note and the one or more second images of the counterfeit bank note are within a range of similarity.

13. (Canceled).

14. (Previously Presented) The method of Claim 12, wherein the step of extracting one or more initial images comprises:

extract a front side initial image of the initial bank note in a first initial position;

extract a front side initial image of the initial bank note in a second initial position;

extract a back side initial image of the initial bank note in a first initial position; and

extract a back side initial image of the initial bank note in a second initial position.

15. (Currently Amended) The method of Claim 12, wherein the step of receiving one or more images of the counterfeit bank note comprises:

receiving a deposit of the counterfeit bank note; and

extracting the one or more second images from the counterfeit bank note.

16. (Currently Amended) The method of Claim 15, wherein the step of extracting one or more images of the counterfeit bank note comprises:

extract a front side second image of the counterfeit bank note in a first position;

extract a front side second image of the counterfeit bank note in a second position;

extract a back side second image of the counterfeit bank note in a first position; and

extract a back side second image of the counterfeit bank note in a second position.

17. (Currently Amended) The method of Claim 16, wherein the step of comparing comprises comparing each second image of the counterfeit bank note in each position a plurality of times to a corresponding initial image of the initial bank note.
18. (Original) The method of Claim 12, wherein the one or more initial images include a unique characteristic that is specific to only one bank note, wherein the initial bank note is the only one bank note with the unique characteristic, wherein the unique characteristic includes other information besides a serial number of the initial bank note.
19. (Currently Amended) The method of Claim 12, wherein the step of comparing comprises:
 - analyzing image characteristics using a Euclid distance formula; and
 - determining that the one or more initial images of the initial bank note and the one or more second images of the counterfeit bank note have a Euclid distance near zero, wherein the range of similarity includes having a Euclid distance near zero.
20. (Original) The method of Claim 12, wherein the steps of the method are stored on a computer-readable medium as one or more instructions for tracing bank notes, wherein the one or more instructions, when executed by one or more processors, cause the one or more processors to perform the steps of the method.